tion was taken, fifteen feet; greatest circumference nine feet. Was caught by fishermen in Table Bay during the month of April, 1828, and the skin was purchased for £6. sterling, and forwarded to the Paris Museum.

---

## ART. LV. *On the Fish known in Jamaica as the Sea-Devil. By* E. N. BANCROFT, *M.D., Corresponding Member of the Zoological Society, &c.*

ON Thursday, the 8th of May, 1828, a fish of extraordinary dimensions, which occasionally visits the mouth of this harbour (Kingston), and is called Sea-Devil by the fishermen, was caught by Major General Sir John Keane, Lieutenant Governor, assisted by Lieutenant St. John, of the Royal Artillery, Mr. Read, Ordnance store-keeper, and some other adventurous officers. It was struck with the first harpoon at about eight o'clock A.M., and was not overpowered and killed till four P.M., whe nit was hauled up on the Ordnance Wharf in this city. Its resistance had been considerable, and its strength was sufficient to drag, from time to time, three or four boats fastened one to another, at the rate of four miles per hour. The Lieutenant Governor was pleased to present the fish to the Jamaica Society; and as I then had reason to believe that it had never been described with sufficient accuracy to enable naturalists to ascertain its true characters, I gladly availed myself of the opportunity thus kindly offered, and very rarely met with, to take such notes of its structure, organs, &c. as will, I hope, suffice to remove the existing doubts concerning its classification. From these the statement now submitted to the Society has been prepared. To show how much obscurity has existed (and probably still exists) in regard to certain species, or individuals, of the Ray family that have been met with of an enormous size, and more particularly in regard to those which some ichthyologists have named Raia Giorna, Raia Mobular, Raia Fabroniana, Raia Banksiana, and Raia Manatia, I may mention that Cuvier (whose authority ought justly to be considered as one of the very highest) has expressed his opinion, that the second and the third of these " are probably individuals of the Giorna " species that have been mutilated;" and he considers the accounts of the two last " as not resting upon authentic documents," (Règne Animal, Vol. II. p. 138), while the respectable writer of the article Raia in Rees's Cyclopœdia, from similar impressions, has abstained from noticing any of the five Rays just mentioned, although, with some inconsistency, a figure of Raia diabolus (the name assigned by Dr. Shaw in his General Zoology to R. Mobular) has, without any further particulars, been introduced into the 6th plate of the order Chondropterygii of that work; which figure, from whomsoever it may have been copied, is faulty in many material respects, if it was intended to represent the Sea-Devil of these waters, as its name seems to imply.* Nor has the account which Dr. Brown has given of this animal at page 457 of his Natural History of Jamaica, (obviously without having ever seen it,) done otherwise than increase that obscurity; for, being probably misled by the Lophius piscatorius having been called by many persons in England, France and Holland the Sea Devil, and also perhaps by the circumstance of two small species of Lophius being found in these waters, he has described our Sea Devil as another species, of that genus under the name of " Lophius maximus Monoceros;" thus placing it not only under a very different genus, but a very different order also, from that to which it really belongs. It is probably under the new genus which has been separated from that of Raia by Dumeril, and named Cephalopterus (winged head), that the Sea-Devil ought to be placed. According to Cuvier (who it is to be presumed had not seen the type of this genus) the two processes, or wings, on the head are merely " productions of the pecto- " ral fins, which," says he (l. c.) " instead of embracing the head, prolong " their anterior extremities each into a salient point, giving to the fish the

---

* The Jamaica Society for the encouragement of Agriculture and of other arts and sciences, before whom this paper was originally read.

---

* In the figure here alluded to, the head, instead of being very broad, and depressed, is narrow, and subcylindrical, and is made besides to project a great deal too much before the pectoral fins; the anterior processes or flappers are concave, instead of being flat; the eyes which ought to stand prominently on the edge of the head, are sunk into a groove; the body behind ends in an acute angle instead of a semicircle; the dorsal fin is misplaced; and the ventral fins, as well as the spiracula behind the eyes, are wholly wanting.

"appearance of having two horns *." But if the specimen before us may serve to direct our judgment, the description just cited will be found to convey a very wrong notion concerning both the origin and the form of the part which has been adopted as characteristic of the genus. So little connected are these processes in reality with the pectoral fins, that a space of not less than fifteen inches intervenes between their respective roots, which space is occupied by the anterior edge of the thorax. The processes arise from, and are articulated with, a thick straight cartilage, nearly answering to the os malæ in the human subject, which extends somewhat obliquely downwards and backwards, from a little before the angle of the mouth, across to the edge of the thorax, four or five inches behind the eye. They measure about twenty-one inches in length, nearly a foot in breadth at their origin, nine inches across the middle, and an inch in thickness, and terminate in a sub-oval flap, nearly flat on the under surface, but strengthened on the upper by a strong ridge of cartilage, ten or twelve inches long, which projects from near the eye, forms the interior edge of the flap, and gradually tapers into it. They consist of a broad layer of longitudinal cartilaginous ribs, or rays, covered on each side with muscular fibres, and inclosed by the common integument. Between their bases a void semicircular space intervenes, whose diameter measures twenty-five inches, while their ends recede a little from each other.

Similar as these appendages appear to be in structure to the pectoral fins of the same animal, there seems reason to think that they are not intended to serve the ordinary purposes of fins. Their exterior edge and their extremity are the only parts of them which are flexible, the firm ridge on their upper surface restricting them from being moved either downwards or backwards, the only movements likely to aid in propelling the body forwards. But this ridge will allow them a considerable extent of horizontal motion; and if the situation, and form, of the flaps be considered in relation to the breadth, make, and bulk of the fish, they seem much more likely to impede, than to assist, his advance, whenever brought

---

† The Abbé Bonnaterre, in his description of Raia Mobular (Ichthyologie, page 5,) has called these appendages ears, and likened them to the ears of a Bat, "Deux grandes oreilles saillantes comme celles de la Chauve-Souris."

into action. It seems more natural to suppose that they might help towards shifting his course to either side; but the extent, the range of action, and the power of his pectoral fins, are such as scarcely to require any aid from the flaps for this purpose. I am accordingly assured by Lieutenant St. John, who has attentively watched the movements of the fish on many occasions, that when he alters his course to one side, he changes his body from its usual horizontal position, to an inclined one, keeping the fin of the opposite side uppermost, and this he curves into a concave form, so as, by holding water, to arrest his progress on that side, and thereby make it serve as a kind of pivot on which to turn; whereas the flaps are only moved when the fish is as it were at rest, seeking his food. He then brings them alternately in a lateral direction, from without inwards, and vice versâ, presenting the flat surface towards the mouth, by which he is enabled to drive a large volume of water into it at each movement; and as the mouth itself is formed of strong rigid cartilages, allowing of no motion whatever beyond simply opening and shutting, and is firmly set besides into the shoulders or thorax, the flappers in question, acting nearly as the mandibles of some tribes of insects, must doubtless be of the utmost utility to the animal in increasing his supplies of both food and water. Their utility ceases, however, the moment he begins to move, when, in order to lessen the obstruction to his advance which they would cause, even if loose, he coils the flexible portion of each against the ridge by a single oblique turn, into a straight roll, which stands perpendicularly from, and out of his line of vision, so as at a certain distance to have been taken for a pair of horns. By these explanations the contradictory accounts that have ascribed ears, horns, lobes, wattles, &c. to the animal, become reconcileable with each other and with truth. The singulariry of the organ, its probable importance to the economy of the fish, and the imperfect or mistaken ideas which were entertained as to its structure and uses by those naturalists even who have constituted it an essential character of their new genus, will, I hope, excuse the length of the foregoing details.

The body has some resemblance to a rhomb truncated at the apex, and is depressed and convex on the upper surface, but rather less so on the under. The anterior or truncated portion, or head, is furnished, at each extremity with a tongue-shaped lobe (the flappers already described) from between which a segment of a circle seems to have been scooped out; while the hinder part of the body ends in a somewhat semicircular form. Its length from the snout to the tip of the ventral fins, as taken over the convexity of the back, measured six feet and a half; its breadth taken in the same way was about five feet, and its thickness in the middle from the dorsal to the sternal aspect eighteen inches. The pectoral fins extended about four feet and a half beyond the body on each side, in the form of an acute angle slightly bowed backwards, measuring about three feet at their base, while the distance between their tips was not less than fourteen feet. The Sea-Devil killed near Fort Augusta in October 1823 by Lieutenants St. John and Lamont, some account of which was given in the eleventh volume of the Edinburgh Philosophical Journal, a female with young, was larger, being fifteen feet in extreme breadth, and more than three feet thick in the body. The ventral fins were by the side of the tail, ten inches long, and five broad; but two-thirds of their breadth on the upper surface were covered by the posterior ends of the pectoral fins. The dorsal fin was about ten inches long, and seven high at its extremity, and stood partly on the back, that is for two-thirds of its length, and the rest on the root of the tail. I was told that the tail must have measured originally about five feet and a half in length; but fifteen inches or more of the end of it, which had been held in the hand, was broken off in one of the fish's struggles. It was very slender, being only eight inches in circumference at its root, four or five inches below which it swelled into a knob nearly as large as the root; and immediately beyond the knob the circumference was but five inches, whence the tail regularly tapered to a point. It was quadrangular and channelled on the right and left side. At the back of the knob a spine issued from a deep groove, that in a full grown fish, as I learn from Lieutenant St. John, is from six to seven inches long, slender, triangular, finely barbed on the edges, and slightly curved upwards towards the end. Our fish wanted the spine, which from the appearance of the groove, it seemed to have recently cast. In the Rays the tail-spine has commonly been described as two edged. Although the animal was a male, there were no traces of those pendulous appendages between the ventral fin and the tail, which naturalists seem to have agreed in regarding as attributes of the male gender among the Rays proper.* The mouth was not placed as in the true Rays, but at the anterior extremity of the body: each jaw represented a segment of a circle, but in the upper jaw, as already explained, the arch was bent inwards towards the body, whereas the lower jaw bore its arch outwards, from which conformation, it projected about an inch before the upper jaw. In width the mouth measured twenty-seven inches; but the cavity which it opened into was twice that width and three feet in depth, and from its vaulted form might easily have contained a man. Another and singular deviation from the ordinary structure of the mouth in the Ray family is, that neither along the jaw, nor in any part of this vast cavity, was a single tooth discovered. The tongue also was wanting. Immediately within and along the upper jaw was a membranous fold or valve, twenty-one inches in length and nearly two inches in breadth, which scarcely opened except at its extremities, where the organs of smell are situated; and beyond this was a second valve, twenty-six inches long, and three to four inches broad, perfectly pliant, serving apparently as a curtain to prevent the egress of any animals that had entered the mouth, and thereby supplying in some measure the want of teeth. This fish differs again from the Rays proper in the position of its eyes, which are not, as in them, near each other on the dorsal surface, but at the extreme edges of the head, and are placed about two inches before the line of the jaws, and three feet and a half asunder. They were inclosed in a strong cartilaginous oval case, admitting in some degree of a rotatory motion, and measuring $3\frac{1}{2}$ inches to $2\frac{4}{10}$ths of an inch, and placed horizontally. But the iris, which was also oval, black, and measured $\frac{12}{10}$ths by $\frac{9}{10}$ths of an inch, had its long axis placed vertically. The pupil conformed to the iris, and was $\frac{6}{10}$ths of an inch in length. I did not observe any nictitating membrane, in wanting which it also differs from the Rays. The spiracles stood nine inches in nearly a straight line behind the eyes, and were of an oval form above; the lower portion extended two or three inches towards the edge of the thorax, and was covered with a valve. The openings of the branchiæ, or gills, were, as usual, placed transversely on the under surface of the thorax, five on each side, the anterior pair were thirteen inches distant from the mouth, eighteen inches from each other, and eighteen inches in length, and the posterior pair were thirty-four inches distant from the mouth, only nine inches from each other, and twelve inches long; the intermediate pairs lying from four to five inches behind one another, and varying as to their respective lengths and distances across the thorax in nearly regular gradations between the proportions as above stated of the first and last pairs.

---

* In a letter addressed to the Editor since the above communication was written, Dr. Bancroft states that he has recently had an opportunity of examining a female of this species. "The principal external difference," he remarks, "is, that the ventral fins, instead of consisting of one undivided "lobe, have an appendix arising from it on the side next to the tail, which is "fleshy, thick, firm, subcylindrical, compressed, and extending three or four "inches beyond the ventral fins. This seems to constitute another deviation "from the characters of the proper Rays, in which, according to Col. Montagu, "it is the male alone that is furnished with a process from or near the inner "side of the ventral fins, which he considers as a masculine appendage; while, "in the Manta, it is the female, and not the male, that has such a process."

The skin of this fish was smooth, as it is termed, that is without thorns or tubercles, but like that of various species of Shark; it was thickly studded over the under, as well as the upper, surface with hard granules of roundish, square, or polygonal, shapes, flattened and slightly hooked at top, the minute points of which, when examined by a lens, were found to be all bent in the same direction, causing the skin to feel rough, when the finger was passed over them in the contrary direction. The granules on the tail were larger and rougher than upon the rest of the body. The colour was a brownish black over the back; changing into a dark grey over the pectoral fins, which became lighter towards their anterior edges and on the side of the thorax and eyes. On the morning after it was killed the back was covered with a very viscid humour, of the colour of pitch, which had oozed out during the night, as the skin was clear of it the evening before. On the under surface of the body the skin was generally very white, but over the abdomen were several spots of irregular shapes and sizes, of which two or three, very small, were of a light blue colour, and the rest of a bluish grey varying among themselves in depth of shade. The middle and posterior portions of the pectoral fins were also bluish grey, deepest along the middle. The frontal flappers were also white, except at their inner and anterior edge, which was bordered with a broad black stripe proceeding from the upper jaw. There were unfortunately no means at hand by which the weight of the fish could be ascertained; but several competent judges estimated it at not less than a ton. As the rapidity with which dead animal substances run into decomposition in this climate, rendered any minute anatomical investigation into the structure of this fish impracticable, it was thought best to have all the internal organs carefully removed and sent home preserved in strong brine to the Zoological Society of London, which has accordingly been since done; I cannot doubt however that every requisite information concerning these organs will be fully and ably supplied by the scientific members of the Society, to whose examination they will be submitted.

From the preceding description the fish seems to agree generally with the characters assigned by Dumeril to the genus Cephalopterus, which are given as follows in the Nouveau Dictionnaire d'Histoire Naturelle, viz.

Body much depressed with five or six branchial apertures on each side beneath; mouth transverse and nostrils situated under and behind the snout, forked in the shape of two fins supported by articulated rays; eyes lateral and two spiracles behind; tail long, conical, much narrower than the trunk. As applicable to our specimen, however, the terms are not the happiest which define the situation of the nostrils, the form of the tail and its size in relation to the trunk; besides which, as being marked distinctions between this genus and that of Raia, the mouth should have been described not merely as transverse but also terminal; and the eyes as being placed widely apart on the extreme edges of the head. It should moreover be observed, that teeth of a small size, less even than those of the sting rays, (dents plus menues encore que celles des Pastenagues,) are included by Cuvier among the generic characters of the Cephalopteri, and when the marked contrast is considered which the want of teeth in our fish presents, as compared with the family of the Rays generally, and the very important difference moreover which the having or not having teeth must create in the physical economy of animals, it may reasonably be doubted whether the fish in question can with propriety be classed in the same genus with fishes that are provided with teeth, or whether a new genus ought not rather to be created for its reception? The solution of this doubt however I shall leave to scientific naturalists in Europe, and for the present, as new genera ought never to be proposed without the clearest necessity, I shall content myself with assuming that Cephalopterus is the proper genus, and proceed accordingly. A new generic title, that of Dicerobatus, or two-horned Ray, given by Blainville to another division of the Ray family, seems to be at least as applicable to our fish as Cephalopterus, because the two flaps in front look so exactly like horns, when rolled up, as to have been always believed to be such by the fishermen here; but the type of this genus, Raia fimbriata, differs so entirely from our fish by its lozenge shape, the position of its eyes near each other on the dorsal surface, the want of a dorsal fin, the fringed edge of the posterior part of its body from the tip of the pectoral fins to that of the tail, and the form and size of the latter, as to forbid its being classed in the same genus with the other. Two species only appear to have been admitted into the genus Cephalopterus by naturalists, the first of which, serving as the type of the genus, was formerly called Raia Giorna by La Cépède, and the second is the Raia Massena of Risso's Ichthyologie de Nice. From the former of these, as described by Dr. Shaw, our fish differs in not having its horns or frontal flappers "blackish," longitudinally striated and marked with eight rows of tubercles, in its dorsal and pectoral fins not being shaped like an isosceles triangle, in its tail not being twice the length of the rest of the animal nor smooth for about a quarter of its length and afterwards tuberculated on both sides, neither is its colour brown above with an olivaceous cast on each side. Of the Raia Massena the only characters I find in the books to which I have had access are the following, given by Bosc in the Nouveau Dictionnaire d'Histoire Naturelle, viz. smooth, the edge of the fins recurved, the horns black at their extremity, the tail with three rows of rough points (asperités): but of these characters the two which relate to the recurved edge of the fins and to the triple row of points on the tail, may suffice to show that it is of a different species from our fish. In regard to the Raia Mobular, of which I have no description before me but those in the Dictionary just mentioned, in Shaw's General Zoology, and in Bonnaterre's Ichthyologie, I certainly find in these works some particulars wherein it seems to resemble the fish we are treating of; but the following characters in which it differs clearly prove the latter to be of a different species, viz. The head of moderate size, rectilinear in front. The mouth placed beneath, measuring about 15 inches in width. The back slightly elevated into a somewhat pyramidal form. The dorsal fin of a lengthened shape, and the tail unarmed, besides which it is stated to have obtuse teeth. To these observations I may add, that I compared Shaw's figures of Raia Giorna, Raia Banksiana, and Raia Fabroniana, with our fish while fresh on the wharf, and that every one was struck with the dissimilarity between them. Such differences in the respective characters of the several fishes as those just adduced, tend necessarily to the conclusion, that our fish is of a distinct species, not hitherto described, and it consequently becomes requisite to point out the specific characters by which it is to be distinguished from all others. A sense of duty prompts me accordingly to propose such characters, but aware how scanty the information is which I here possess concerning the family of Rays generally, and more especially concerning the Cephalopterous division of it, it is only with great diffidence that I offer those which follow, prefixing to them the word Manta as the specific name of the fish, for reasons which will immediately be submitted.

CEPHALOPTERUS MANTA,* subrhomboideus, lævis, piceus, pinnis acutè elongatis nigro-griseis; subtùs albus maculis plumbeis; caudâ corpore paullo breviori, basin versus aculeo triangulari instructâ, sub-quadrangulari, gracillimâ.

Cephalopterus Manta, subrhomboid, smooth, blackish; fins acutely elongated, dark grey; white beneath, with lead-coloured spots; tail rather shorter than the body, armed with a triangular spine near the root, subquadrangular, very slender.

There is one interesting but obscure point in the history of the class of fishes which the examination that has recently been made of the subject of this paper will assist in clearing up; I allude to the destruction which is stated in Anson's Voyage, by Don Antonio De Ulloa (at page 130 of Volume I. of his Voyage to South America), to be caused among the divers engaged in the Pearl Fisheries between Panama and Guayaquil by a certain prodigiously large fish called Manta, which, says he, "being broad and long like a quilt, wraps its fins round a man that happens to come within its reach, and immediately squeezes him to death," to prevent which the officers are always on the watch that they may warn the divers by a signal of their danger: and this statement has been repeated by Mr. Walter in the 8th chapter of the 2d book of his Relation of Lord Anson's Voyage, as well as by the Abbé Raynal, and since adopted by Alcedo, who, in his excellent Geographical and Historical Dictionary of America, (article Manta) has described the fish as being "so inimical to man, that it darts at the diver immediately that he submerges, and envelopes, and devours him." The Manta has, I believe, been generally supposed to belong to the Ray family, but its species has not hitherto been ascertained, so far as I can discover. The only conjecture about it by any naturalist that I have found is that of Colonel Montagu who, in the second volume of the Wernerian Transactions, page 426, hints at the probability of the sharp-nosed Ray, Raia Oxyrinchus, being "the Manta of the South Seas, where undoubtedly its size is vastly increased." In this, however, the Colonel proves to have erred, for I am assured by several Spanish gentlemen who went to see our Devil-fish, (two of whom are merchants in the habit of navigating between Guayaquil and Panama), that it was the very same fish which they had been accustomed to see, and to call Manta, but they considered our individual as rather small. Its identity therefore with the Manta of Spanish authors being established, I beg leave to suggest, in case, for the reasons already given, or for others, it should be ascertained not to be a Cephalopterus, and a new genus be required to be created for its reception, that we ought not to seek either in the Greek or in the Latin language for a generic title which shall designate its frontal flappers or feeders, because the structure and uses of organs such as these were utterly unknown to the ancients, and even till very lately to the moderns; and that instead of a learned, but necessarily inappropriate title, it will be more safe and useful to science to employ one already familiarized to ichthyologists, and no longer obscure, and to call the genus by the name of Manta, and our species by that of Manta Americana, from its having been hitherto found, if not solely, at least chiefly, in the American Seas.

---

* Although we have not ventured to make any alterations in the above Paper, we apprehend that the name here given must be regarded as synonymous with the Ceph. Giorna of Le Sueur (Journ. Acad. Nat. Sci. Phil. iv. 100.) with the description and figure of which the present species corresponds in almost every particular. That also is known as the Devil-fish by the Americans, and is described under that name by Catesby.—ED.

When the fish was placed before us, it was natural that we should endeavour to satisfy ourselves as to the degree of credit which the accounts above quoted of the mode in which it destroyed the divers might justly be entitled to. It is here proper to state that every one of the Spanish gentlemen just alluded to, gave a similar account; but each of them confessed that he had never known of such an event, and it was obvious that they all spoke from tradition.

That the pectoral fins of a Manta can enfold a man in the mode that has been supposed, seems, nevertheless, upon examination, quite impossible from their structure and position; they are too thick at their base and along a great part of their anterior margin, and their cartilages are too stiff to bend in that way; neither would the manner of their articulation with the strong and rigid arch of the skeleton on each side of the body admit of any considerable approximation between their tips. There is besides the whole breadth of the body, measuring five feet in our subject, which must be kept immoveably extended by the arch both of the sternum and also of the skeleton as just explained, and which, even if the ends of the fins could be brought to meet, would still afford ample space to secure a man from being compressed in the way pretended: to say nothing of the suspension of the fish's locomotive power so long as his fins are thus kept together.

For these reasons, if the Manta has ever in reality killed any divers, it seems much more likely to have been effected by seizing and ingulphing them within its huge mouth, than by squeezing them between its fins. But, if we advert on the other hand to its total privation of teeth, the number of which has been thought, even by naturalists, to be generally proportioned to the voracious and destructive natures of fishes, to its very narrow œsophagus, and to what has been observed of its habits, which are as opposite as possible to those of the Shark, (for it has never been seen in this harbour to feed on carcases, but only on what the fishermen call small fry,) it appears very improbable that the fish would either seek to devour men, or even to snap at and catch them with its mouth. And under these circumstances it seems more rational to attribute the deaths of divers, that doubtless have happened on the Pearl Fishery Bank, to the notorious voracity of Sharks, which in general abound there, rather than to the hostility of the Manta.

In the East Indian Seas, in which several species of very large Rays have been seen, and the Manta itself is very probably to be found, it does not appear from the most authentic accounts that have been given of the Great Pearl Fisheries near Ceylon, particularly Mr. Le Beck's in the 5th Volume of the Asiatic Researches, and Captain Percival's in his account of Ceylon, that the divers entertain a dread of any fish, except the Shark. But so great is their apprehension of this animal, that even the British government has been compelled to yield to the superstitions of the natives, and to maintain shark-conjurors in their pay to avert danger from this enemy. On this head I shall only add, that the result of the enquiries which I have made on the subject in question from several ancient fishermen in this harbour, is, that not one of them has heard of any injury having been done to men by the Sea Devil, and that they have rather thought it a timid animal, as it always moves quickly out of the way of even the smallest canoe it approaches. Yet they had, it appears, a superstitious dread of it, and believed that whoever should attack and kill it, would himself shortly be visited with death, and were therefore extremely loth to assist in the act. Lieutenant St. John also tells me, that on one occasion, when a Sea Devil accidentally upset a boat at anchor fishing in deep water, by entangling its flappers with the cable, which it had dragged under the bows, it made no attack on the crew; and that he has himself been bathing in the midst of three, when they seemed to avoid his presence, by moving away, as he advanced or swam towards them.

While the Shark has generally been observed to be a solitary animal, the Sea Devil on the contrary appears to be a gregarious one; in this harbour it has almost always been seen in company, to the number in one instance of eleven, the greater part of which were probably females, as may be presumed from this circumstance, that out of six of these fishes which Lieutenant St. John has assisted in killing, the last was the only male one. I am likewise informed by my estimable friend Don Antonio San Hemeterio, that, in one of his voyages from Campeche hither, a shoal of not less than a hundred Mantas crossed his vessel, some of them now and then leaping two or three yards out of the water and coming down flat on their bellies with a loud noise; and Mr. Smith, first mate of the brig Mars, now loading here for London, tells me that when employed lately in fishing for pearls off the Bank of Cubagua, near Margarita, he once saw a large herd of these fishes passing near him, many of which leaped up in the manner just described. Sharks, I am told, never approach the Sea Devil, unless it be wounded or dead; when they pursue it so greedily, that, in one instance, they devoured a great portion of a fish which had been struck, before it could be drawn to the shore.

EDW. NATH. BANCROFT.

---

## ART. LVI. *Observations on a species of Pteropus from Bonin. By* G. TRADESCANT LAY, *Esq*

DURING the short stay of the Blossom at the Island of Bonin I had frequent opportunities of observing the habits of a species of *Pteropus,* Briss., which appears to differ from all that have been previously described in its nearly uniform colour, and in the length and proportion of its teeth. I shall denominate it *psèlaphon* in allusion to the habit of feeling instead of seeing its way in the day time.

Alar membrane or the expansion of the integuments, broad, extended, rather deeply cut, black in the living animal, but becoming brownish on drying: interfemoral membrane about half an inch in width towards its extremities, narrower and almost rudimentary near the coccyx, where it is entirely concealed by the long hairs of the body, hairy on nearly the whole of its upper, and on about one half of its under surface. Fur smooth and adpressed on the back, loose and apparently frizzled on the shoulders, neck, head, and under surface, extending along the arm and fore-arm, and somewhat on the under surface of the alar membranes, brownish black, with an intermixture of longer gray hairs. These latter appear to be more numerous where the fur is loose, and give to the shoulders, neck, head, and under surface a lighter colour, approaching slightly to ferruginous; the ferruginous tint being most remarkable at the coccyx and near the anus. The claws are all cutting, and the first of them is frequently employed by the animal